AMENDMENT TO THE SPECIFICATION

Please replace the paragraph beginning on page 9, line 6, with the following paragraph:

The output of the first-stage **601,** [[$Y_1(z)$]] $\underline{Y_2(z)}$, and the second-stage **602**, $Y_4(z)$, in FIG. 6 are described below in equations 1 and 2.

$$Y_2(z) = \frac{z^{-2}X(z) + (1 - p_1 z^{-1})(1 - p_2 z^{-1})Q_1(z)}{1 + (B_2 - p_1 - p_2)z^{-1} + (B_1 - B_2 p_1 + p_1 p_2)z^{-2}} \quad (1)$$

$$Y_4(z) = \frac{z^{-2}X(z) + (1 - p_3 z^{-1})(1 - p_4 z^{-1})Q_2(z)}{1 + (B_4 - p_3 - p_4)z^{-1} + (B_3 - B_4 p_3 + p_3 p_4)z^{-2}} \quad (2)$$

where $Q_1(z)$ and $Q_2(z)$ are the additive quantization noise based on a linear model for the quantizers **606, 609**. In the above relations all variables, including the coefficients, are complex. Parameters B_1, B_2, B_3, and $B_{4\ may}$ be set as desired to achieve various results. In general, parameters B_1, B_2, B_3, and B_4 are set so that the denominators of equations 1 and 2 are equal. In this example, parameters B_1, B_2, B_3, and B_4 are set as shown in equations 3 and 4.

Please replace the paragraph beginning on page 10, line 15, with the following paragraph:

As stated above, $p_1 = 1 + d_1 + jc_1$ and ~~$p_2 = 1 + d_2 + jc_2$,~~ $\underline{p_2 = 1 + d_2 + jc_2}$. Thus, the noise cancellation transfer function may be expressed as: $NC(z), = NCr(z) + jNCi(z)$ where,

$$\begin{cases} NCr(z) = 1 + (-2 - d_1 - d_2)\, z^{-1} + (1 + d_1 + d_2 + d_1 d_2 - c_1 c_2)\, z^{-2} \\ NCi(z) = -(c_1 + c_2)\, z^{-1} + (c_1 + c_2 + c_1 d_2 + c_2 d_1)\, z^{-2} \end{cases} \quad (11)$$

Please replace the paragraph beginning on page 10, line 19, with the following paragraph:

Therefore, the coefficients c_1 and c_2 used for noise cancellation circuit **611** preferably match with the same coefficients used in the first stage [[601]] **601** of the modulator [[600]] **600**. Any mismatch between may degrade the performance of the system. The real implementation of the complex cascade modulator in accordance with one exemplary embodiment of the invention is shown in ~~Fig. 7~~ FIG. 7.

Please replace the paragraph beginning on page 10, line 19, with the following paragraph:

Simulation results using Matlab-Simulink have shown that the complex cascaded sigma-delta modulator with complex noise cancellation system, constructed in accordance with FIG. 7 exhibits an excellent noise transfer function (corresponding to an excellent SNR, while at the same time exhibiting excellent immunity to coefficient ~~variation~~ variation).

Please replace the paragraph beginning on page 10, line 19, with the following paragraph:

In one embodiment, sigma-delta modulator **901** may be a complex cascade sigma-delta ADC having a structure and function like that of complex cascade sigma-delta ADC **600**, described above. In another embodiment, sigma-delta modulator **901** may be a complex sigma-delta modulator, such as that shown in FIGS. 4A and 4B, or it [[my]] may be a complex sigma-delta modulator of conventional design, such as those disclosed in US Patent Nos. 6,225,928 or 6,329,939, the disclosures of each of which are incorporated herein by reference.